

TYPE	YEAR	PROJECT NO.	SHEET NO.
R.O.W.	2014	NH-I-640-7(161)	
CONST.	2015	NH-I-640-7(161)	26D

KNOX CO. I-640
47008-3150-44 (CONST.)

SPECIAL NOTES

- ALL CONSTRUCTION TO BE IN ACCORDANCE WITH TDOT STANDARD SPECIFICATION NO. 730 TRAFFIC SIGNALS AND SPECIAL PROVISION 730K.
- LOCATION OF POLES, PULLBOXES, SIGNAL CABINET, CONDUIT, AND SIGNAL HEADS ARE APPROXIMATE AND MAY REQUIRE SOME ADJUSTMENTS IN THE FIELD BY THE CONTRACTOR. ALL FIELD ADJUSTMENTS SHALL REQUIRE APPROVAL BY THE CITY OF KNOXVILLE.
- COORDINATE WITH THE KNOXVILLE UTILITIES BOARD WITH REGARD TO ELECTRICAL SERVICE CONNECTION.
- ALL UTILITIES LOCATIONS ARE APPROXIMATE. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION WITH TENNESSEE ONE CALL AND LOCATION OF ALL UTILITIES. COST OF ANY DAMAGE TO UTILITY FACILITIES TO BE BORNE BY CONTRACTOR.
- ALL TRAFFIC SIGNALS SHALL UTILIZE 12" DISPLAYS, BACKPLATES, AND ASTRO BRACKET TYPE HARDWARE.
- ALL SIGNAL INDICATIONS WITHIN ALL VEHICULAR SIGNAL HEADS PROPOSED FOR THIS PROJECT SHALL CONSIST OF A LED (LIGHT EMITTING DIODE) SIGNAL MODULE.
- ALL LED'S SHALL MEET THE MINIMUM STANDARDS AS OUTLINED IN CHAPTER 2A AND INCLUDING PROVISIONS OF TECHNICAL NOTES IN THE CHAPTER APPENDIX OF THE PUBLICATION EQUIPMENT AND MATERIAL STANDARDS OF THE INSTITUTE OF TRANSPORTATION ENGINEERS, PUBLISHED BY ITE NOVEMBER 1997. INCANDESCENT OR SCREW-IN MODULES ARE NOT ACCEPTABLE. COMPATABILITY WITH CONFLICT MONITORS ARE LOAD SWITCHES SHALL BE TESTED AND CONFIRMED. MANUFACTURER SHALL PROVIDE A FIVE-YEAR WARRANTY FOR OPERATION OF THE UNIT.
- THE TRAFFIC SIGNAL CONTROLLER SHALL BE AN 8-PHASE NAZTEC ATC CONTROLLER WITH PAD MOUNTED CABINET SUITABLE FOR INCLUSION OF TRAFFIC SIGNAL EQUIPMENT, CLOSED LOOP SYSTEM, VIDEO DETECTION, EMERGENCY VEHICLE PREEMPTION, BACKUP POWER SUPPLY AND ALL ASSOCIATED HARDWARE.
- PEEK ATC CONTROLLER SHALL BE CONFIGURED TO OPERATE IN THE EXISTING PEEK 1880EL SYSTEM.
- CONTRACTOR OR POLE MAUFACTURER SHALL BE RESPONSIBLE FOR POLE AND FOUNDATION DESIGNS.
- ALL STRIPING AND SPECIALTY MARKINGS ARE TO BE THERMOPLASTIC.
- ALL SIGNAL, SIGNING, AND PAVEMENT MARKINGS SHALL CONFORM TO THE MOST CURRENT RELEASE OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
- ALL PULLBOX COVERS SHALL HAVE "TRAFFIC" LOGO.
- SIGNAL UPS SHALL BE PSI ULTRAPOWER-STEALTH BATTERY BACK-UP UNDER SHELF MOUNT CONFIGURATION AND PROVIDE 4 HOUR CONTINUOUS OPERATION.
- RF VEHICLE DETECTION SHALL BE WAVETRONIX OR EQUAL ACCEPTABLE TO THE CITY OF KNOXVILLE.
- EMERGENCY PREEMTION SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER SPECIFICATIONS.
- RADAR DETECTION SHALL BE INSTALLED ON THE SIGNAL POLE AND IN COMPLETE ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND SHALL BE CAPABLE OF VEHICLE DETECTION. INSTALLATION SHALL INCLUDE ALL NECESSARY HARDWARE AND ADJUSTMENTS TO RENDER OPERABLE DETECTION SYSTEM TO THE SATISFACTION OF THE CITY OF KNOXVILLE.
- ALL CONDUIT SHALL INCLUDE A TRACE WIRE.
- EMERGENCY PREEMPTION SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER AND SHALL BE A SIREN SPECIFICATION ACTIVATED, SOMEM 2000 OR APPROVED EQUAL.
- CONTRACTOR IS RESPONSIBLE FOR ESTABLISHING A CLOSED-LOOP SYSTEM WITH BOTH TWISTED PAIR AND FIBER COMMUNICATIONS.
- STREET SIGN SHEETING SHALL BE 3M DIAMOND GRADE MATERIAL OR EQUIVALENT. SIGN LENGTH SHOULD NOT EXCEED 96". COORDINATE SIGN LEGEND AND BLOCK NUMBERS WITH THE CITY OF KNOXVILLE. (STEVE SHARP, SIGNS AND MARKINGS SUPERVISOR, 865-215-6720).
- THE CONTRACTOR IS RESPONSIBLE FOR INSTALLING STREET NAME SIGNS ON THE MAST ARMS FOR SIDE STREET APPROACHES. STEVE SHARP, SIGN AND MARKINGS SUPERVISOR AT 865-215-6720 OR 865-215-6100 IS THE POINT OF CONTACT TO OBTAIN CITY OF KNOXVILLE STREET NAME STANDARD.

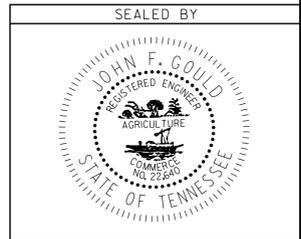
SIGNALIZATION SPECIAL NOTES

- TRAFFIC SIGNALIZATION PLANS CONSIST OF NEW TRAFFIC CONTROL SIGNALS UTILIZING FOUR POLES WITH MAST ARMS. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING THE CITY OF KNOXVILLE WITH MILL DRAWINGS AND STRUCTURAL CERTIFICATION FOR ALL SIGNAL SUPPORT STRUCTURES.
- EQUIPMENT AND INSTALLATION SHALL COMPLY WITH ALL APPLICABLE REQUIREMENTS OF THE FOLLOWING TENNESSEE DEPARTMENT OF TRANSPORTATION PUBLICATIONS:
 - "SPECIAL PROVISIONS" SECTION 730 AND 730K - TRAFFIC SIGNALS.
 - "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" (JANUARY 1, 2015)
 - "STANDARD ROADWAY AND STRUCTURE DRAWINGS"
- VEHICULAR AND PEDESTRIAN SIGNAL HEADS OR SIGNING, WHEN VISIBLE TO DRIVERS AND/OR PEDESTRIANS BUT NOT OPERATIONAL, SHALL BE COMPLETELY COVERED WITH VEHICULAR SIGNAL, PEDESTRIAN SIGNAL OR SIGN COVER SPECIFICALLY DESIGNED FOR THIS PURPOSE. NO MAKESHIFT COVERS ARE ACCEPTABLE.
- SIGNAL HEADS SHALL BE BLACK IN COLOR WITH ALUMINUM TOP SECTION AND TWO POLYCARBONATE BOTTOM SECTIONS HAVING A 12-INCH SIGNAL FACES AND HAVING BLACK POLYCARBONATE VACUUM FORM BACKPLATES WITH LOUVERS.
- ELECTRICAL SERVICE CONNECTION SHALL INCLUDE A MINIMUM 1-INCH STEEL CONDUIT RISER WITH WEATHER HEAD. ALL ELECTRICAL PERMITS REQUIRED BY CITY ORDINANCES SHALL BE OBTAINED AND PAID FOR BY THE CONTRACTOR AND AFTER COMPLETION OF THE WORK, THE ENGINEER SHALL BE FURNISHED A CERTIFICATE OF FINAL INSPECTION AND APPROVAL FROM THE ELECTRICAL INSPECTION DEPARTMENT OF THE CITY OF KNOXVILLE.
- THE CONTRACTOR SHALL PROVIDE A COMPLETE ELECTRICAL SERVICE AND SHALL COORDINATE THIS ACTIVITY WITH THE LOCAL UTILITY, INCLUDING THE PROVISION OF ANY REQUIRED METERING OR OTHER SPECIAL EQUIPMENT. THE SIGNAL CONTRACTOR WILL NOT CONTACT THE CITY OF KNOXVILLE TO REQUEST SERVICE HOOKUP UNTIL THE SIGNAL IS READY TO BE PLACED INTO OPERATION AND READY FOR FINAL INSPECTION BY THE CITY OF KNOXVILLE.
- THE SIGNAL CONTRACTOR IS RESPONSIBLE FOR CONTACTING AND DELIVERING THE CONTROLLER AND SIGNAL MONITOR TO THE CITY SIGNAL MAINTENANCE SUPERVISOR, ALLEN ARNETT AT 865-215-6732 OR 865-215-6100 FOR TESTING AND PROGRAMMING A MINIMUM OF 14 WORKING DAYS PRIOR TO PLACING THE SIGNAL IN THE INITIAL START-UP FLASH SEQUENCE.
- THE SIGNAL CONTRACTOR SHALL CONTACT ALLEN ARNETT, SIGNAL MAINTENANCE SUPERVISOR AT 865-215-6732 OR 865-215-6730 FOR SIGNAL WIRING DIAGRAM WITH WIRING COLOR CODE.
- ALL PAVEMENT MARKINGS SHOWN ON THE PLANS, E.G., STOP BARS, LANE LINES, GUIDE LINE, ETC., SHALL BE IN PLACE PRIOR TO ACTIVATION OF THE TRAFFIC SIGNAL START UP FLASH SEQUENCE.
- THE SIGNAL CONTRACTOR WILL BE RESPONSIBLE FOR SIGNAL MAINTENANCE ON THE TRAFFIC SIGNAL UNTIL THE FINAL SIGNAL INSTALLATION HAS BEEN INSPECTED AND ACCEPTED BY THE CITY OF KNOXVILLE.
- PEDESTRIAN PUSH BUTTONS SHALL BE ADA COMPLIANT AND VANDAL PROOF.

- ALL VEHICULAR AND PEDESTRIAN SIGNAL DISPLAYS SHALL BE LED GELCORE BRAND OR APPROVED EQUAL.
- ALL PEDESTRIAN DISPLAYS SHALL BE LED COUNTDOWN FULLY POPULATED HAND AND MAN SIGNALS.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE CITY OF KNOXVILLE IN WRITING WHEN ALL WORK HAS BEEN COMPLETED AND THE SIGNAL INSTALLATION IS READY FOR FINAL INSPECTION TO INCLUDE ALL SIGNAL, SIGN AND MARKING INSTALLATIONS. THE POINT OF CONTACT IS MARTIN PERCY, P.E., CHIEF TRAFFIC ENGINEER, TRAFFIC ENGINEERING GROUP, 1400 LORRAINE STREET, KNOXVILLE, TENNESSEE 37921.

COMMUNICATION NOTES

- CONDUIT SHALL BE SCH. 80 PVC WITH TRACE WIRE EXCEPT WHERE OTHERWISE DESIGNATED AND LOCATED APPROXIMATELY 12" BEHIND THE CURB OR ATTACHED TO BRIDGE STRUCTURE BARRIER WALL.
- FIBER-OPTIC CABLE SHALL BE INSTALLED IN ACCORDANCE TO THE MANUFACTURER'S SPECIFICATIONS.
- FIBER-OPTIC CABLE SHALL BE A MINIMUM OF 12-FIBER HYBRID CABLE (6MM, 6SM).
- CONTRACTOR SHALL BE RESPONSIBLE FOR TESTING THE FIBER-OPTIC CABLE AND COMMUNICATIONS BETWEEN SIGNALS.
- SIGNAL CABINETS AND CONTROLLERS SHALL HAVE ANY NECESSARY DEVICES FOR FIBER-OPTIC COMMUNICATIONS. CONTRACTOR IS RESPONSIBLE FOR FULLY OPERATIONAL CLOSED LOOP SYSTEM AT COMPLETION.
- CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF AN OPERATING CLOSED-LOOP SYSTEM TO THE SATISFACTION OF THE CITY OF KNOXVILLE.
- CONDUCTORS IN PULL BOXES AND EQUIPMENT ENCLOSURES SHALL BE NEATLY ARRANGED AND LACED WITH APPROVED CABLE TIES. IN ACCORDANCE WITH INDUSTRY STANDARD PRACTICE AND AS NOTED ON THE PLANS.
- CONTRACTOR SHALL COIL ADDITIONAL CABLE IN THE BOTTOMS OF CABINTES AND PULL BOXES. SLACK CABLE SHALL BE A MINIMUM OF 15' FOR TYPE "B", 10' FOR TYPE "A", AND 20' FOR SIGNAL CABINETS.
- CONTRACTOR SHALL MAINTAIN THE EXISTING TWISTED PAIR COMMUNICATIONS UNTIL NEW FIBER COMMUNICATIONS CAN BE OPERATIONAL.
- CONTRACTOR IS RESPONSIBLE FOR INTERFACING THE FIBER COMMUNICATIONS WITH THE EXISTING TWISTED PAIR INTERCONNECT.



COORDINATES ARE NAD/83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 1.0001 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

SIGNAL NOTES